

REMARKS

In the Office Action of September 20, 2006, the Examiner rejected all pending claims of the present application (claims 53-66) under 35 U.S.C. §§ 102 or 103. The sole reference relied on by the Examiner was U.S. Patent No. 5,854,708 to Komatsu et al. ("Komatsu"). The Examiner also rejected claims 57 and 58 under 35 U.S.C. § 112 as indefinite due to terms lacking antecedent basis.

A. Status Of The Claims

Dependent claims 57 and 58 have been amended. Independent claim 53 (the only independent claim pending in the case) and dependent claims 54-56 and 59-66 have not been amended. Claims 1-52 were cancelled in a preliminary amendment.

B. The Examiner's § 112 Rejections Are Moot In View Of This Amendment

The amendments to claims 57 and 58 eliminate the concerns cited by the Examiner with respect to any lack of an antecedent basis for terms in those claims. Accordingly, the Applicant respectfully requests that the Examiner's § 112 rejections be withdrawn.

C. Komatsu Does Not Anticipate, Or Render Obvious, Any Claim In the Present Application

The claimed invention is directed to a method for cleaning air. The method involves the use of a composite comprising a substrate and a surface layer. The surface layer is hydrophilic and self-cleanable, and is comprised of at least three components. The three required components are: (1) a photocatalyst, (2) a component comprising a first metal oxide selected from a first Markush group, and (3) a component comprising a second metal oxide selected from a second Markush group.

Komatsu discloses an anti-fog element on a substrate. (Komatsu at col. 2, ll. 8-13.) The anti-fog element is comprised of two films: a photocatalyzer film, and an inorganic oxide film on the photocatalyzer film. (*Id.*) An example of a material for the photocatalyzer film is TiO_2 . (*Id.* at col. 2, ll. 40-44.) An example of a material for the inorganic oxide film is SiO_2 . (*Id.* at col. 2, ll. 33-39.) Another example of a material for the inorganic oxide film is Al_2O_3 . (*Id.*) Komatsu does *not* disclose using a mixture of SiO_2 and Al_2O_3 , nor does it disclose using any mixture of inorganic oxides for the inorganic oxide film. Likewise, Komatsu does not disclose any applicable three-component structure formed on a substrate, or any applicable triple-layer structure on a substrate for the anti-fog element. As such, it cannot form the basis for a rejection of claims 53 *et seq.* under § 102. *See, e.g., Rapoport v. Dement*, 254 F.3d 1053, 1057 (Fed. Cir. 2001); *Gechter v. Davidson*, 116 F.3d 1454, 1457 (Fed. Cir. 1997); MPEP § 2131.

Not only does Komatsu fail to disclose or suggest using a third component metal oxide in its anti-fogging element, it also fails to disclose any explicit or implicit motivation to use such a third component metal oxide. This lack of an explicit or implicit motivation to modify Komatsu is fatal to any obviousness rejection of claims based on Komatsu. *See, e.g., Ecolchem v. Southern California Edison Co.*, 227 F.3d 1361, 1372 (Fed. Cir. 2000); *In re Vaeck*, 947 F.2d 488, 493-95 (Fed. Cir. 1991); MPEP § 2142.

Additionally, in some of the examples, Komatsu discloses metals such as Cr or Al on the *rear* surface of the glass substrate. (*See, e.g., Example 2.*) These materials are not part of the photocatalytic layer – they are on the *opposite* side of the substrate from the photocatalytic layer. (*Id.*) Accordingly, the Applicant respectfully submits that the Examiner's rejections of claims 56-58 and 66 are mistaken.

The Applicant believes that other limitations in the claims are not met by Komatsu, but they need not be argued in view of the foregoing deficiencies in Komatsu. The Applicant respectfully submits that the Examiner's rejections under 35 U.S.C. §§ 102 and 103 should be withdrawn.

CONCLUSION

For all of the foregoing reasons, the Applicant respectfully requests that the pending claims be allowed.

Respectfully submitted,

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